

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q79575

Golan HANINA, et al.

Appln. No.: 10/762,246

Group Art Unit: 2621

Confirmation No.: 4514

Examiner: Hai Chi Pham

Filed: January 23, 2004

For: SYSTEM AND METHOD FOR PROVIDING HIGH BRIGHTNESS ILLUMINATION

AMENDMENT UNDER 37 C.F.R. § 1.111

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated March 23, 2006, please amend the above-identified application as follows on the accompanying pages.

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An illumination system, comprising:
a plurality of solid state light emitters disposed relative to a location and operative to emit light to impinge on said location; and
a scanner operative to sequentially receive light from said plurality of solid state light emitters at said location at essentially the same angle of incidence and to provide a time-multiplexed light output.
2. (original) The illumination system claimed in claim 1, wherein said solid state light emitters are operative in a pulsed mode.
3. (original) The illumination system claimed in claim 2, wherein said solid state light emitters are operative to output light pulses in a sequence.
4. (original) The illumination system claimed claim 2, wherein operation of said solid state light emitters in said pulsed mode is synchronized with operation of said scanner such that light from each of said solid state light emitters is received by said scanner at a time corresponding to a light a output of said light emitter.
5. (original) The illumination system claimed in claim 2, wherein said solid state light emitters receive a current pulse substantially higher than a steady state operation current rating to emit light in said pulsed mode.

6. (original) The illumination system claimed in claim 5, wherein a brightness of light pulses emitted by said solid state light emitters when operating in a pulsed mode is greater than a brightness of light emitted by said solid state light emitters when operating in a steady state of operation.

7. (original) The illumination system claimed in claim 2, wherein said light emitters are arranged in a loop.

8. (original) The illumination system claimed in claim 7, wherein said scanner is disposed generally at the center of said loop.

9. (original) The illumination system claimed in claim 8, wherein said scanner comprises a rotating mirror angled to receive light emitted by said light emitters at the same angle of incidence, and project the light to an optical system.

10. (original) The illumination system claimed in claim 8, wherein said light emitters are configured to emit pulsed light in a sequence, and said scanner rotates synchronously with said emission of pulsed light to receive pulsed light from a light emitter as said light emitter is pulsed.

Claims 11. – 12. (original) (canceled)

13. (currently amended) The illumination system claimed in claim ~~4~~1, wherein said solid state light emitters comprise light emitting diodes.

14. (currently amended) The illumination system claimed in claim ~~4~~1, wherein said solid state light emitters comprise diode lasers.

15. (original) A system for recording information on a surface, comprising:
a plurality of solid state light emitters operative to sequentially output pulsed light;

a scanner operative to sequentially receive pulsed light from said plurality of solid state light emitters and to output a combined beam of light including light pulses from a more than one solid state light emitter;

a modulator operative to modulate said combined beam; and

an image scanner operative to scan said modulated combined beam to record a pattern on a photosensitized surface.

16. (original) The system claimed in claim 15, wherein said combined beam has an intensity characteristic that is increased relative to an intensity characteristic of one of said solid state light emitters when operating in a continuous mode of operation.

17. (original) The system claimed in claim 15, wherein said combined beam has a brightness characteristic that is increased relative to a brightness characteristic of one of said solid state light emitters when operating in a continuous mode of operation.

18. (original) The system claimed in claim 15, wherein said scanner is operative to time multiplex pulses from said solid state light emitters to generate said combined beam.

19. (original) The system claimed in claim 15, wherein said modulator is a spatial light modulator.

20. (original) The system claimed in claim 15, wherein said solid state light emitters comprise light emitting diodes.

21. (original) The system claimed in claim 15, wherein said solid state light emitters comprise diode lasers.

22. (original) The system claimed in claim 20, wherein said light emitting diodes output light having a spectral wavelength of less than 400nm.

23. (currently amended) A method for generating a light beam, comprising:

disposing a plurality of solid state light emitters relative to a location;
emitting light from a plurality of solid state light emitters to impinge on said location; and
scanning said emitters to sequentially receive light at said location at essentially the same angle of incidence and to provide a time-multiplexed light output.

24. (original) The method claimed in claim 23, wherein said emitting light comprises operating said solid state light emitters in a pulsed mode.

25. (original) The method claimed in claim 24, wherein emitting light comprises outputting light pulses in a sequence.

26. (original) The method claimed claim 24, wherein said operating comprises emitting light in synchronization with operation of said scanner such that light from each of said solid state light emitters is received by said scanner at a time corresponding to a light output of said light emitter.

27. (original) The method claimed in claim 24, wherein said emitting light comprises intermittently supplying a current pulse to a solid state light emitter, the current pulse being of substantially higher power than a steady state operation current rating thereby causing said solid state light emitter to emit light in said pulsed mode.

28. (original) The method claimed in claim 27, wherein a brightness of light pulses emitted by said solid state light emitters when operating in a pulsed mode is greater than a

brightness of light emitted by said solid state light emitters when operating in a steady state of operation.

29. (original) The method claimed in claim 24, further comprising arranging said light emitters in a loop.

30. (original) The method claimed in claim 29, further comprising positioning said scanner generally at the center of said loop.

31. (original) The method claimed in claim 30, wherein said emitting comprises emitting pulsed light in a sequence, and wherein said scanning comprises rotating said scanner synchronously with said emission of pulsed light to receive pulsed light from a light emitter as said light emitter is pulsed.

Claims 32. – 33. (canceled)

34. (currently amended) The method claimed in claim ~~33~~23, wherein emitting light from solid state light emitters comprises emitting light from light emitting diodes.

35. (currently amended) The method claimed in claim ~~33~~23, wherein emitting light from solid state light emitters comprises emitting light from diode lasers.

36. (original) A method for recording information on a surface, comprising:
sequentially outputting pulsed light from solid state light emitters;
sequentially receiving pulsed light from said plurality of solid state light emitters and outputting a combined beam of light including light pulses from a more than one solid state light emitter;
modulating said combined beam; and

scanning said modulated combined beam to record a pattern on a photosensitized surface.

37. (original) The system claimed in claim 36, wherein said outputting a combined beam comprises outputting a beam having an intensity characteristic that is increased relative to an intensity characteristic of one of said solid state light emitters when operating in a continuous mode of operation.

38. (original) The system claimed in claim 36, wherein said outputting a combined beam comprises outputting a beam having a brightness characteristic that is increased relative to a brightness characteristic of one of said solid state light emitters when operating in a continuous mode of operation.

39. (original) The system claimed in claim 36, further comprising time multiplexing pulses from said solid state light emitters to generate said combined beam.

40. (original) The system claimed in claim 36, wherein said modulating comprises modulating said combined beam with a spatial light modulator.

41. (original) The system claimed in claim 36, wherein said outputting pulsed light comprises outputting pulsed light from light emitting diodes.

42. (original) The system claimed in claim 36, wherein said outputting pulsed light comprises outputting pulsed light from diode lasers.

43. (original) The system claimed in claim 41, outputting pulsed light from light emitting diodes comprises outputting pulsed light having a spectral wavelength of less than 400nm.